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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,373	06/27/2003	Philip D. Nguyen	2003-IP-010077U2	8009

7590 06/01/2005
Robert A. Kent
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EXAMINER

FULLER, BRYAN A

ART UNIT	PAPER NUMBER
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3672

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/608,373	Applicant(s) NGUYEN, PHILIP D.	
	Examiner Bryan A. Fuller	Art Unit 3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 109 is/are pending in the application.
- 4a) Of the above claim(s) 69 - 109 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 - 16, 18 - 21, 23 - 40, 42 - 44, 46 - 62, 64 - 66 and 68 is/are rejected.
- 7) ☒ Claim(s) 17, 22, 41, 45, 63 & 67 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/27/03, 8/15/03(6)</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1 - 68, drawn to a method of stimulating a subterranean formation, classified in class 166, subclass 283.
 - II. Claims 69 - 109, drawn to a fracturing fluid comprising a permeable cement composition, classified in class 507, subclass 269 and class 106, subclass 724.

2. The inventions are distinct, each from the other because:

Inventions II and I are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product can be used in the stabilization of ground soil or as a cementing agent in building or highway construction.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Robert Kent on 4/21/2005 a provisional election was made with out traverse to prosecute the invention of Group I claims 1 - 68.

Affirmation of this election must be made by applicant in replying to this Office action.

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Claims 69 - 109 are withdrawn from further consideration by the examiner, 37

CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 4 – 5, 28 – 29, and 50 – 51 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention.

Claims 4 – 5, 28 – 29, and 50 – 51 are rejected to for containing improper MARKUSH groups. This rejection can be overcome by replacing the word “comprises” and replacing it with the phrase “from the group consisting of.”

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 7 – 8, 14, 23, 25, 31 – 32, 38, 47, 53 – 54, and 60 are rejected under 35 U.S.C. 102(b) as being anticipated by Nimerick (3,818,991).

With respect to claim 1, 7 – 8, 14, 25, 31 – 32, 38, 47, 53 – 54, and 60: Nimerick teaches in column 1, lines 38 – 59 and column 19, lines 24 – 33 permeable cement composition comprising a hydraulic cement, water and a degradable material that is injected into a subterranean formation to create a fracture. The reference teaches a polymer as the degradable material. Then the cement composition is allowed to form a proppant in the fracture. Additionally, with regard to claim 1, it would be inherent that voids would be created in the proppant after the degradable material has time to degrade.

With respect to claim 23: Nimerick teaches in column 1, lines 50 – 59 a permeable cement composition comprises proppant particles.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2 – 3, 26 – 27, and 48 – 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nimerick in view of Thompson, Sr. et al (6,302,209).

With respect to claims 2 – 3, 26 – 27, and 48 – 49: Nimerick discloses the invention as claimed. However, Nimerick does not disclose the use of a surfactant in his permeable cement compositions. Thompson, Sr. et al teaches in column 21, line 12 – column 22, line 32 the use of surfactants in permeable cement compositions to

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disperse the degradable material. Additionally, the reference teaches the use of surfactants in the range of 0.1% to 5% by weight. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Nimerick's cement composition by including a surfactant in the given range to disperse the degradable material in the cement composition in view of the teachings of Thompson, Sr. et al. Using surfactant suspension compositions causes accurate additive delivery in oil and gas completion processes.

11. Claims 4 – 6, 9, 15 – 16, 19, 24, 28 – 30, 33, 39 – 40, 43, 50 – 52, 55, 61 – 62, 65 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nimerick in view of McDaniel et al (Pub. No. US 2002/0048676 A1).

With respect to claims 4 – 6, 9, 28 – 30, 33, and 50 – 52, and 55: Nimerick teaches the features as claimed except for the use of a high aluminum cement or Portland cement for the hydraulic cement. McDaniel et al teaches in paragraphs [0078], [0290], and [296] a hydraulic cement that comprises high aluminum content cement or Portland cement. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Nimerick's cement composition by using a high aluminum content cement or Portland cement as the hydraulic cement in the cement composition in view of the teachings of McDaniel et al because they accelerate the setting reaction and improve the handling of the mix.

With respect to claims 15 – 16, 19, 39 – 40, 43, 61 – 62, and 65: Nimerick teaches the features as claimed except for the use of polyester as the degradable polymer with the ability to se a plasticizer as an additive. McDaniel et al teaches on

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page 18, paragraph [0265] and page 20, paragraphs [0295], [0292], and [0296] the use of polyester as the degradable polymer with the ability to use a plasticizer as an additive. The reference also teaches the use of the degradable polymer in the amount of 5% to 70%. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Nimerick's invention and use polyester as the degradable polymer and use a plasticizer as an additive in the cement composition in view of the teachings of McDaniel et al. Using these polymers and additives gives the cement mixture the necessary moldability characteristic of this kind of cement, and to improve its mechanical characteristics.

With respect to claims 24 and 68: Nimerick teaches the features as claimed except for the creation of cement proppant that possess a permeability ranging from about 1 to about 125 darcies. McDaniel et al teaches on page 26, paragraph [0368] the creation of cement proppant that possess a permeability ranging from about 1 to about 125 darcies. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Nimerick's cement composition and use a proppant with the permeability in the specified range for the cement composition in view of the teachings of McDaniel et al.

12. Claims 10 – 11, 18, 34 – 35, 42, 56 – 57, and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nimerick in view of Erbstoesser et al (4,526,695).

With respect to claims 10 – 11, 18, 34 – 35, 42, 56 – 57, and 64: Nimerick teaches the features as claimed except for the use of poly(D,L-lactide) as the degradable polymer or the use of a fluid loss additive. Erbstoesser et al teaches in

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column 3, line 35 – column 6, line 56, used within the ranges listed in the application, in a fracturing fluid also used to propagate the fracture. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Nimerick's cement composition and use a fluid loss additive in a hydraulic cement fracturing fluid and use poly(D,L-lactide) as the degradable polymer in the cement composition in view of the teachings of Erbstoesser et al. Poly(D,L-lactide) is used because it substantially degrades in the presence of water at an elevated temperature in a relatively short period of time. The fluid loss additive minimizes the fluid loss during the treatment to maintain the wedging effect and propagates the fracture.

13. Claims 12, 36, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nimerick in view of Metcalf et al (4,210,455).

With respect to claims 12, 36, and 58: Nimerick teaches the features as claimed except for the method wherein the cement composition is mixed on-the-fly. Metcalf et al teaches in column 2, lines 22 – 33 the method wherein the cement composition is mixed on-the-fly. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Nimerick's method and mix the cement composition on-the-fly in view of the teachings of Metcalf et al. This is a desirable method of mixing a cement slurry due to logistics.

14. Claims 13, 37, and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nimerick in view of Onan et al (5,696,059).

With respect to claims 13, 37, and 59: Nimerick teaches the features as claimed except for the method of forming the cement compositions by mixing the hydraulic cement, any other dry additives, and water to form a pumpable slurry that is transportable. Onan et al teaches in column 6, line 64 – column 7, line 1 a method of forming the cement compositions by mixing the hydraulic cement, any other dry additives, and water to form a pumpable slurry. The pumpable slurry is then transported to the wellbore. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Nimerick's method and blend the cement composition and transport the composition to the well site in view of the teachings of Onan et al. This is a common practice when using cement compositions.

15. Claims 20, 44, and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nimerick in view of Rickards et al (6,330,916).

With respect to claims 20, 44, and 66: Nimerick teaches the features as claimed except for the use of a degradable material having a rod-like shape. Rickards et al teaches in column 3, lines 10 – 20 the use of a degradable material having a rod-like shape. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Nimerick's cement composition by including a degradable material having a rod-like shape in view of the teachings of Rickards et al.

16. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nimerick in view of Tjon-Joe-Pin et al (5,696,059).

With respect to claim 21: Nimerick teaches the features as claimed except for the method of forming a proppant to prevent the closure of the fracture and to form voids in the proppant matrix. Tjon-Joe-Pin et al teaches in column 1, lines 28 – 38 a method of forming a proppant to prevent the closure of the fracture and to form voids in the proppant matrix. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Nimerick's cement composition by including a proppant matrix with channel-like voids to reduce the permeability of the proppant in view of the teachings of Tjon-Joe-Pin et al.

17. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nimerick and Tjon-Joe-Pin et al as applied to claim 21 above, and further in view of McDaniel et al.

With respect to claim 46: Nimerick and Tjon-Joe-Pin et al teach the features as claimed except for the creation of cement proppant that possess a permeability ranging from about 1 to about 125 darcies. McDaniel et al teaches on page 26, paragraph [0368] the creation of cement proppant that possess a permeability ranging from about 1 to about 125 darcies. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the combination of Nimerick's and Tjon-Joe-Pin's cement composition and use a proppant with the permeability in the specified range for the cement composition in view of the teachings of McDaniel et al.

Allowable Subject Matter

18. Claims 17, 22, 41, 45, 63, and 67 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan A. Fuller whose telephone number is (571) 272-8119. The examiner can normally be reached on M - Th 7:30 - 5:00 and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on (571) 272-6999. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


David J. Bagnell
Supervisory Patent Examiner
Art Unit 3672